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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/782,687	02/19/2004	Kamal Jain	MS306434.1/MSFTP526US	4582
27195 7590 01/02/2008 AMIN. TUROCY & CALVIN, LLP 24TH FLOOR, NATIONAL CITY CENTER 1900 EAST NINTH STREET CLEVELAND, OH 44114			EXAMINER ERB, NATHAN	
			ART UNIT 3628	PAPER NUMBER
			NOTIFICATION DATE 01/02/2008	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/782,687

Applicant(s)

JAIN ET AL.

Examiner

Nathan Erb

Art Unit

3628

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 October 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 and 28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-26 and 28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. Applicants' response to Office action was received on October 10, 2007.
3. A minor non-compliance was found in applicants' response. In the first line of claim 11, the number "2" has been replaced with the text "Error! Reference source not found." In light of the minor nature of the non-compliance and in the interest of expediting prosecution of this application, this Office action is being issued anyway. The application is being addressed in this Office action as if the number "2" in the claim had not been replaced in the above manner. Examiner requests that applicants correct this non-compliance in their next response.
4. In response to applicants' amendment of the claims, all of the claim objections from the previous Office action are hereby withdrawn.
5. In response to applicants' amendment of the claims, all of the rejections of the claims under 35 U.S.C. 112, first paragraph, from the previous Office action are hereby withdrawn.
6. In response to applicants' amendment of the claims, the rejection of claim 28 under 35 U.S.C. 112, second paragraph, from the previous Office action is hereby withdrawn.
7. Applicants' amendment of claim 1 has not overcome the rejection of claims 1-11 under 35 U.S.C. 101 from the previous Office action. Please see the rejection below in this Office action for suggested language to overcome this rejection.
8. In response to applicants' amendment of the claims, the rejection of claims 12-22 under 35 U.S.C. 101 from the previous Office action is hereby withdrawn.

9. In response to applicants' amendment of the claims, the rejection of claim 27 under 35 U.S.C. 101 from the previous Office action is hereby withdrawn.

10. Please note the new claim rejections under 35 U.S.C. 112, second paragraph, below in this Office action.

Claim Rejections - 35 USC § 112

11. Claims 1-26 and 28 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

For example, referring to representative independent claim 1, the language used in the claim seems to describe the general underlying concept behind the invention, how well the invention performs, and what the invention can do, as opposed to the distinct sequential mathematical steps that would be expected in a claim for a mathematical algorithm. To be more specific, the first component is described as "a component that receives data relating to supply and demand data for a system and demarcates at least a subset of the data relating to at least one agent operating within the system into demander data and supplier data, respectively." The demarcation mentioned seems to be a reference to how the applicants' method overcomes not being able to have market agents be both buyers and sellers by running in iterations and letting the budget of an agent in a current iteration be revenue the agent generated in a previous iteration (see applicants' specification, p. 9, line 27, through p. 10, line 1). This is an underlying concept that applicants used to generate their method, but as a claimed element/limitation, it does not really address how the data is manipulated into market equilibrium data, such as prices of goods at equilibrium or the bundle of goods that each market agent should have at equilibrium.

The second element/limitation of the body of the claim is "an approximation component that applies a polynomial-time approximation method to the demarcated data in connection with generating an approximate equilibrium value for the system." "Polynomial-time approximation method" is not a clear way to describe the algorithm because polynomial-time is simply a way of describing how fast a problem-solving method reaches a solution. For example, which would be a better way to define a method of rowing a boat across a river: (a) climbing into a boat and paddling through the water or (b) crossing a river at twice the average rate? In addition, applicants' specification also states that it is has not been proven that Method 1, one of applicants' two described methods in the specification, reaches a solution in polynomial-time (see applicants' specification, p. 22, lines 6-11). Therefore, if Method 1 is intended to be claimed in claim 1, polynomial-time may not be the best term to use. "In connection with" is another vague phrase that does not clearly define what is going on in the claimed invention. To be more specific, is the approximate equilibrium value calculated as one of the calculations that occurs while executing the steps of the polynomial-time approximation method? Or does the polynomial-time approximation method just calculate a value that is later used in another calculation to determine the approximate equilibrium value?

"Applies" is another vague word used in the claim, as in applying a polynomial-time approximation method to the demarcated data. This does not describe how the data is manipulated. For example, it does not describe what mathematical operations are performed to what particular data values from the demarcated data, or what constants, if any, are part of the calculations as well.

Therefore, the language of claim 1 is so unclear as to be indefinite. All of the other independent claims, claims 12 and 23, use similar language to claim 1 and thus have similar issues. The dependent claims are not allowable at least due to their incorporation of the indefinite language of the independent claims via their dependency.

Examiner suggests that the claims be re-written with the following advice. The applicants' actual mathematical algorithm, the steps that one would perform to take input data and produce the desired output result and that would be expected to be encompassed in some way by the claims, is fairly well-described in the applicants' specification in the form of two methods, Method 1 (applicants' specification, pp. 15-16) and Method 2 (applicants' specification, pp. 16-17). The two methods seem quite different from each other, so a divisional application might be necessary to claim both methods. The step-by-step way that each method is described in the above passages of the specification would be a good roadmap for claims based on each method. The claims would have to expand a bit on the language in those passages of the specification; for example, the claim should be clear as to what is being described in step 3 of Method 1 in the specification. Dependent claims 21 and 22 are on the right track with respect to claiming Method 2, but need to go further. For example, not all of the variables are defined in those claims, and the phrase "executing a dichotomous market solution algorithm on the instance, M_p , of the dichotomous market and outputting a second price vector" is still indefinite.

Claim Rejections - 35 USC § 101

12. Claims 1-11 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Regarding claim 1, from which claims 2-11 depend, applicants' specification, on p. 5, lines 20-24, states that a "component" may be only a computer program.

Therefore, claim 1 is directed to a computer program, without the computer-readable medium needed to realize the computer program's functionality. Therefore, the claim is directed to nonstatutory functional descriptive material. See MPEP 2106.01(I).

Applicants' amendment of claim 1 does not overcome this rejection because the claim is still ultimately directed toward a "system," not a computer program. Examiner suggests the following language to help overcome this rejection:

1. A computer-readable medium having computer-readable instructions embedded therein which, when executed by a computer, cause said computer to implement a method for [purpose of applicants' method, such as facilitating determination of equilibrium values], comprising:

[applicants' method, step 1];

[applicants' method, step 2];

[and so on].

Note that the above language will render claim 28 to be essentially redundant.

Conclusion

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nathan Erb whose telephone number is (571) 272-7606. The examiner can normally be reached on Mondays through Fridays, 8:30 AM to 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Hayes can be reached on (571) 272-6708. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

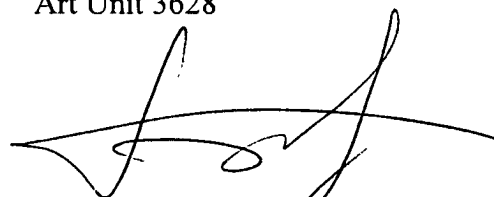
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nhe

Nathan Erb
Examiner
Art Unit 3628



IGOR N. BORISSOW
PRIMARY EXAMINER